

# Farming with Pollinators

## In New Hampshire



### OVERVIEW

Pollinator insects are a key component of productive farms and healthy ecosystems. They include bees, wasps, butterflies, moths, beetles and even flies. Worldwide, there are an estimated 20,000 species of bees, with approximately 4,000 species native to the United States.

Managed honey bee hives usually receive all of the credit for crop pollination, yet the number of managed hives continues to decline due to diseases, pests, habitat destruction, pesticide use and invasive species (Colony Collapse Disorder or CCD).

However research shows that native bee populations are a significant contributor to crop pollination. Native New England bees are adapted to our climate and pollinate during cool rainy days when honey bees are not willing to leave the hive. These traits of native bees are especially helpful with spring pollinated crops such as apples and blueberries.

In the U.S., the economic value of the pollination service provided by native insects is estimated at \$3 billion per year. They are necessary for the reproduction of nearly 75 percent of the world's flowering plants. This includes two-thirds of the world's crop species.



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### CROP POLLINATION IN NEW HAMPSHIRE

Insect pollination is critical for the production of many important crops in New Hampshire such as:

- Tomatoes
- Blackberries
- Pumpkins
- Blueberries
- Melons
- Pears
- Apples
- Sunflowers
- Squash

In New Hampshire, there are nearly 100 orchards, and 6,000 acres of fruit and vegetable cropland producing an annual output valued at \$18 million. Similarly, Vermont has nearly 4,000 acres of commercial apple production and an annual crop valued at \$10-12 million. Connecticut is the 10th largest producer of pears in the U.S. as measured both in terms of acreage and annual yield.

### HABITAT NEEDS OF NATIVE POLLINATORS

Good pollinator habitat requires a diverse mix of native plants to bloom throughout the entire season especially during mid-summer to provide a food source of both pollen and nectar. In addition non-tilled bare ground, over grown fields and decaying trees provide great nesting sites. The type of pollinator determines the type of plants needed.

Bees typically visit flowers that are purple, violet, yellow, white, and blue. Butterflies visit a similarly wide range of colors, including red, whereas flies are primarily attracted to white and yellow flowers. By having several plant species flowering at once, and a sequence of plants flowering through spring, summer, and fall, habitat enhancements can support a wide range of pollinator species that fly at different times of the season.

### POLLINATOR CONSERVATION

The Natural Resources Conservation Service (NRCS) provides technical and financial assistance for landowners who wish to promote native pollinators on their land.

#### The NRCS provides the following approach to pollinator conservation:

- (1) Perform a resource assessment on the property to identify existing pollinator habitat.
- (2) Provide landowners information on protecting and enhancing existing pollinator habitat.
- (3) Protocols for managing vegetation on adjacent landscapes.
- (4) Provide landowners estimates on the amount of pollination which can occur from native pollinators and how that may reduce the amount of managed bee hives.

Specific conservation practices NRCS provides for pollinators are available on the reverse side.

**Natural Resources Conservation Service**

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## **COVER CROP 340**

Can include diverse legumes or other forbs that provide pollen and nectar for native bees. Look for a diverse mix of plant species that overlap in bloom timing to support pollinators throughout the year. Some examples of cover crops that are utilized by bees include clover, phacelia, and buckwheat. Many “beneficial insect” cover crop blends include plant species that will also provide forage for pollinators.

## **FIELD BORDER 386**

A pollinator field border is mix of forbs and wildflowers that provides nectar and pollen throughout the year. These areas are only mowed every few years and provide an excellent area for nesting bees. Leaving standing crop residue can protect bees that are nesting in the ground at the base of the plants they pollinate.

Alternatively, allowing field borders to become overgrown (e.g. with native bunch grasses) may provide nesting habitat for bumble bees. This practice also can help reduce drift of pesticides onto areas of pollinator habitat.

## **EARLY SUCCESSIONAL HABITAT DEVELOPMENT/MANAGEMENT 647**

This management practice is important for maintaining prime open and sunny habitat for pollinators. If appropriate, dead trees and snags may be kept or drilled with holes to provide nesting sites for bees.

## **TREE/SHRUB ESTABLISHMENT 612**

Planting trees and shrubs helps supplement gaps in pollen and nectar sources throughout the growing season. Important early season shrubs such as pussy willow help foraging bees increase colony size in time for crop pollination. These plantings will also enhance wetlands and adjacent uplands and benefit other wildlife species.

**For more information,  
Call or stop by your area NRCS office,  
Or visit <http://www.nh.nrcs.usda.gov>**

## **USDA-NRCS/CONSERVATION DISTRICT OFFICES**

### **Belknap County Conservation District**

2 Airport Rd., Mailbox #1, Gilford, NH 03249  
603-527-5880

### **Concord Field Service Center**

#### **Merrimack County Conservation District**

10 Ferry St., Suite 211, Concord, NH 03301  
603-223-6021

### **Conway Field Service Center**

#### **Carroll County Conservation District**

73 Main St., Conway, NH 03818  
603-447-2771

### **Epping Field Service Center**

Knightly Plaza  
629 Calef Highway, Suite 203  
Epping, NH 03042  
603-679-1587

### **Lancaster Field Service Center**

#### **Coos County Conservation District**

4 Mayberry Lane, Lancaster, NH 03584  
603-788-4651

### **New Hampshire State Office**

2 Madbury Rd.  
Durham, NH 03824  
603-868-7581

### **Milford Field Service Center**

#### **Hillsborough County Conservation District**

Chappell Professional Ctr., #468, Rte. 13 South,  
Milford, NH 03055  
603-673-2409

### **Orford Field Service Center**

#### **Grafton County Conservation District**

19 Archertown Rd., Suite 1  
Orford, NH 03777  
603-353-4651

### **Rockingham County Conservation District**

110 North Road, Brentwood, NH 03833  
603-679-2790

### **Sullivan County Conservation District**

95 County Farm Road, Unity, NH 04743  
603-542-4891

### **Strafford County Conservation District**

264 County Farm Rd, Unit, Dover, NH 03820  
603-749-3037

### **Walpole Field Service Center**

#### **Cheshire County Conservation District**

11 Industrial Park Dr.  
Walpole, NH 03608  
603-756-2988